HANDBOOK OF PHONOLOGICAL DATA
FROM A SAMPLE OF THE WORLD'S LANGUAGES

A Report of the Stanford Phonology Archive

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200 French

200 01 p[01]
[b-tense][60]

200 02 b[01]
[p-lax][61]

200 03 t[01]
*[c]
[d-tense][60]

200 04 d[01]
[t-lax][61]

200 05 k-prevelar[01 02]
[c][62]
(free,neutral)
*/t/
[g-prevelar-tense][60]

200 06 g-prevelar[01 02]
[k-prevelar-lax][61]

200 07 f[01]
[v-tense][60]

200 08 v[01]
[f-lax][61]

200 09 s[01]
[z-tense][60]

200 10 z[01]
[s-lax][61]

200 11 s-hacek[01 03]
[z-hacek-tense][60]

200 12 z-hacek[01 03]
[s-hacek-lax][61]

200 13 m
[m-voiceless][63]

200 14 n
[n-voiceless][63]

200 15 n-palatal[04]
[n-palatal-voiceless][63]

200 16 l

200 French

[l-voiceless][63]

17 r-trill-uvular[05]
[r-trill-uvular-voiceless][63]
[r-approximant-uvular]
(free)

18 r-trill[30]
(limited)
[r-trill-voiceless][63]

19 eng[31]
(loan)

20 h-voice[32]
(limited)

51 i[07 08]
[i-long][65]

52 u-trema[07 08 09 10]
[u-trema-long][65]

53 e[07 08]
*[epsilon]
*[epsilon-long]
[e-mid][67]
[ash-long][65 68]

54 epsilon[07 08 69]
(allo,restricted)
*/e/

55 epsilon-long[07 08 65 69]
(allo,restricted)
*/e/

56 o-open-trema[07 08 09 10]
*[o-trema]
[o-mid-trema][67]
[o-open-trema-long][65]
[omega-trema-long][65 68]

57 o-open-trema-nasalized[07 08 09 10]
[o-open-trema-long-nasalized][66]

200 French

58 a-front[07 08]
*[a]
[a-front-long][65]

59 ash-nasalized[07 08]
[ash-long-nasalized][66]

60 o-mid-trema[07 08 11 12 36]

61 u[07 08 10]
[u-long][65]

62 o-open[07 08 10 15 16]
*[o]
[o-mid][67]
[o-long][66 70]
[omega-long][65 68]
[o-open-long][65]

63 o-nasalized[07 08 10 17]
[o-long-nasalized][66]

64 o[07 08 10 71]
(allo,restricted)
*/o-open/

65 alpha[07 08 10 18 19 38]
[alpha-long][66]
[a][07 40 72]
(allo,neutral)
*/a-front/

66 alpha-nasalized[07 08 10 18 19]
[alpha-long-nasalized][66]

67 yod[20]
[yod-voiceless][63]

68 w-front
[w-front-voiceless][63]

69 w[21]
[w-voiceless][63]

70 o-trema[07 08 09 10 39 71]
(allo,restricted)
*/o-open-trema/

200 $a French $b Parisian $d Romance $e France $f 52 million $g Merritt Ruhlen $g Marilyn Vihman (review)

200 $a Sten, H. $b 1963 $c Manuel de Phonetique Francaise $g Copenhagen: Munksgaard

200 $a **INTONATION** $A "The typical melody for the unemphatic declarative sentence is a rising-falling intonation.... There is generally a fairly even rise up to the next-to-last syllable, after which there is an abrupt fall." (p.89) For further information see p.89-100.

200 $a **LONG CONSONANTS** $A Discussion of geminate consonants, p.76-81. Emphasis may be expressed by lengthening the first consonant of a word. (p.80)

200 $a **RESTRICTED VOWEL CONTRASTS** $A Within the French vowel inventory there are six pairs of phones which contrast either in a single limited environment only, or for certain speakers only, or both. The conditions are not the same across the six pairs. The front unrounded mid-vowels [e] and [epsilon] contrast (for some speakers) in word-final open syllable (i.e., when stressed; before pause). In closed, final syllable only [epsilon] occurs; in non-final

(unstressed) syllable a mid vowel "compromise" phone is said to occur. The rounded mid vowels pattern in the opposite way. The front rounded mid vowels contrast in a very few lexical items (for some speakers) in word-final closed syllable. In open stressed syllable only the higher-mid phone occurs. In unstressed syllable a mid vowel compromise phone is found. The back rounded mid vowels contrast in a good many lexical items, for all speakers, in closed syllable. In open stressed syllable, again, only the higher-mid phone occurs, and in unstressed syllable we find a compromise mid vowel. In each of these cases a clear complementary distributional pattern exists, relating the two members of the pair, with contrast only in a single position. Length is contrastive only for a single vowel, [epsilon] (for some speakers). Certain lexical items may occur with [epsilon-long] instead of [epsilon], in non-lengthening environment. Minimal pairs do exist, but the contrast is not always maintained by any given speaker. The low vowel [a-front] contrasts (for some speakers) with [alpha], which tends to be used in formal style in some lexical items. There is no distributional relationship between the two phones. We treat them as separate phonemes, with neutralization in unstressed syllable. The pair /ash-nasalized/ and /o-open-trema-nasalized/ contrast only for some speakers. For others, only /ash-nasalized/ occurs. There is again no distributional relationship; we treat them as independent phonemes.

200 $a **STRESS** $A "The syllables of a French word are fairly equal in intensity, there is just a slightly heavier stress on the last syllable.... Stressed and unstressed syllables do not alternate." (p.83) The first syllable or first consonant-initial syllable in a word may be given stress equal to that of the final syllable for emphasis. (p.84f)

200 $a **SYLLABLE** $A (C)(C)V(C)(C) $A A single intervocalic consonant is grouped with the following vowel. Intervocalic two-consonant clusters are generally divided into two syllables; where the second consonant is a sonorant, the cluster as a whole is grouped with the following syllable. Three-consonant clusters with medial /s/ are divided Cs-C. See p.104f.

200 01 $A With the stops and fricatives "these days...the real difference between [b] and [p], etc. is held not to be one of voice vs. voiceless, but rather lenis vs. fortis." (p.41) Lenis here means less muscular tension, less energy. (p.42f)

200 02 $A /k-prevelar, g-prevelar/ are generally articulated against the hard palate. (p.44)

200 03 $A "In general, [for /s-hacek, z-hacek/] one or two upper teeth approximate the corresponding lower teeth, leaving a narrow passage between the incisors. The whole tongue is raised toward the palate and slightly retracted. The lateral edges of the tongue are strongly pressed against the alveolae and the upper molars. The tongue tip remains entirely free...." (Sten p.50, quoting Grammont, Traite pratique de prononciation francaise, Paris 1914, 9th ed. 1951, p.75f) Sten doubts that all the details specified by Grammont are essential for the articulation of these sounds, and adds that lip rounding is also present. (p.51)

200 04 $A For /n-palatal/ "the tip of the tongue is in contact with the inner incisors, whereas the blade is raised and tightly pressed against the hard palate." (Sten p.46, quoting Grammont, Traite pratique de prononciation francaise, Paris 1914, 9th ed. 1951, p.63)

200 05 $A In producing /r-trill-uvular/ the tongue is raised to the height of the following vowel or, where no vowel follows, to the height of the preceding vowel. (p.52)

200 07 $A "The vowels are in principle tense. They are less tense in unstressed syllables. /o-mid-trema/, which is probably lax, occurs only in unstressed syllables." (p.12) "The higher the vowel the more tense it is." (p.15)

200 08 $A Differences in vowel length amount to a difference between "short and a little less short." (p.74)

200 09 $A "Front rounded vowels are noticeably more open than the plain front vowels to which they correspond." (p.15)

200 10 $A Stronger labialization for back than for front rounded vowels. (p.17)

200 11 $A "It is generally said that the French [schwa] [= our /o-mid-trema/] is a front vowel, not a 'neutral' or 'central' vowel like the sound written as [schwa] in other languages." (p.17)

200 12 $A According to Sten 1963, it is very difficult to determine the exact articulation of /o-mid-trema/, since it never occurs under stress, but the several authors he cites all represent "schwa" as either /o-trema/ or /o-open-trema/, only lax. (p.16f) We code it as the front rounded mid vowel, following n.67.

200 15 $A "There is very often a tendency to pronounce [o-open] much further forward [than [o]], so that it comes very close to being a front vowel." (p.18)

200 16 $A /o-open/ is described only as rounded in Sten 1963, but is often produced with little or no rounding. [MV]

200 17 $A The exact height of /o-nasalized/ fluctuates from higher-mid to lower-mid. (p.26)

200 18 $A /alpha/ is "even lower than /a-front/." (p.18)

200 19 $A /alpha/ is slightly rounded. (p.18)

200 20 $A /yod/ differs from a high vowel in that "the lateral sides of the tongue are pushed farther up against the upper molars so that the size of the little canal located between the surface of the tongue and the hard palate is reduced to such an extent that a passing breath cannot help but produce a sound of friction." (quoted from Grammont, Traite pratique de prononciation francaise, Paris 1914, 9th ed. 1951, p.46)

200 21 $A /w/ is pronounced with close approximation of the lips; upper lip thrust forward. (p.38)

200 30 $A /r-trill/ is used in theater and oratory and song. (p.53)

200 31 $A /eng/ varies with /n/, /n-palatal/, [eng.g] and nasalized vowels as a realization of English /eng/ in loans. (p.48)

200 32 $A /h-voice/ is used in interjections, in onomatopoeia, in declamation and in special emphasis. (p.56)

200 36 $A "One may wonder whether [o-mid-trema] should really be viewed as a separate phoneme [rather than as an allophone of /o-trema/ or /o-open-trema/, the two phonetically closest tag-phones]. But it has been noted that [o-mid-trema] has a variant that [o-trema] lacks, namely zero." (p.17) A footnote to these lines gives a counter-example to that objection. We keep /o-mid-trema/ as a separate phoneme only on the grounds of insufficient clear evidence one way or another. [MV]

200 38 $A Very few minimal pairs exist for the contrast /a-front:alpha/. Sten cites Straha, La prononciation parisienne (Bull. de la Faculte des Lettres de Strasbourg, 1952), to the effect that lower class French tends to preserve the contrast, while "cultivated" speakers do not. /alpha/ is gradually being replaced by /a-front/, with a good deal of lexical fluctuation. /alpha/ belongs to a formal style, so that it "is suitable above all for words with a solemn character." (p.22)

200 39 $A /o-trema/ contrasts with /o-open-trema/, rarely, in some dialects in closed syllable under stress (i.e., in word-final closed syllable). (cf. p.20)

200 40 $A Sten cites Lombard in Melanges de linguistique offerts a Alfred Dauzat, 1952, p.194: "outside the stressed syllable, the phonemes /e/ and /epsilon/ are very often confused," resulting in a "mid vowel which is neither close nor open" (and analogously for the mid front and back rounded pairs of phonemes), and for the front and back low vowel pair, /a-front/ and /alpha/. Other phoneticians reject this analysis. For an alternative set of allophonic rules in unstressed syllables, see Straha, Systeme des voyelles du francais moderne, Bull. de la Faculte des Lettres de Strasbourg 1950, p.24, cited in Sten, p.24

200 60 $A /p, t, k-prevelar, f, s, s-hacek/ are realized as [b-tense, d-tense, g-prevelar-tense, v-tense, z-tense, z-hacek-tense] before voiced obstruents.

200 61 $A /b, d, g-prevelar, v, z, z-hacek/ are realized as [p-lax, t-lax, k-prevelar-lax, f-lax, s-lax, s-hacek-lax] before voiceless obstruents.

200 62 $A Before /yod/, /t/ and /k-prevelar/ may merge in popular speech. (p.45) (The value [c] is an inference--no phonetic symbol is used by Sten.)

200 63 $A The sonorants and glides are voiceless word-finally after voiceless obstruents.

200 65 $A Vowels are lengthened before the voiced fricatives and /r-trill-uvular/ in word-final position (optionally followed by /o-mid-trema/).

200 66 $A /alpha/, [o], and the nasalized vowels are lengthened before word-final consonants (optionally followed by /o-mid-trema/).

200 67 $A The higher- and lower-mid vowel phonemes are realized as mid-vowels when unstressed.

200 68 $A /e/ and the lower-mid vowels are lowered to higher-low before /r-trill-uvular/.

200 69 $A /e/ is realized as [epsilon] in word-final closed syllable.

200 70 $A Vowel lengthening actually affects [o] not as an allophone of /o-open/ (see raising of rounded mid vowels), but as a phone in "restricted contrast" with /o-open/--in closed, stressed syllable.

200 71 $A The rounded lower-mid vowels are raised to higher-mid in word-final open syllable.

200 72 $A The front and back low vowel pair /a-front/ and /alpha/ are neutralized as [a] when unstressed.